W 0076

20030225207

FIG. 1

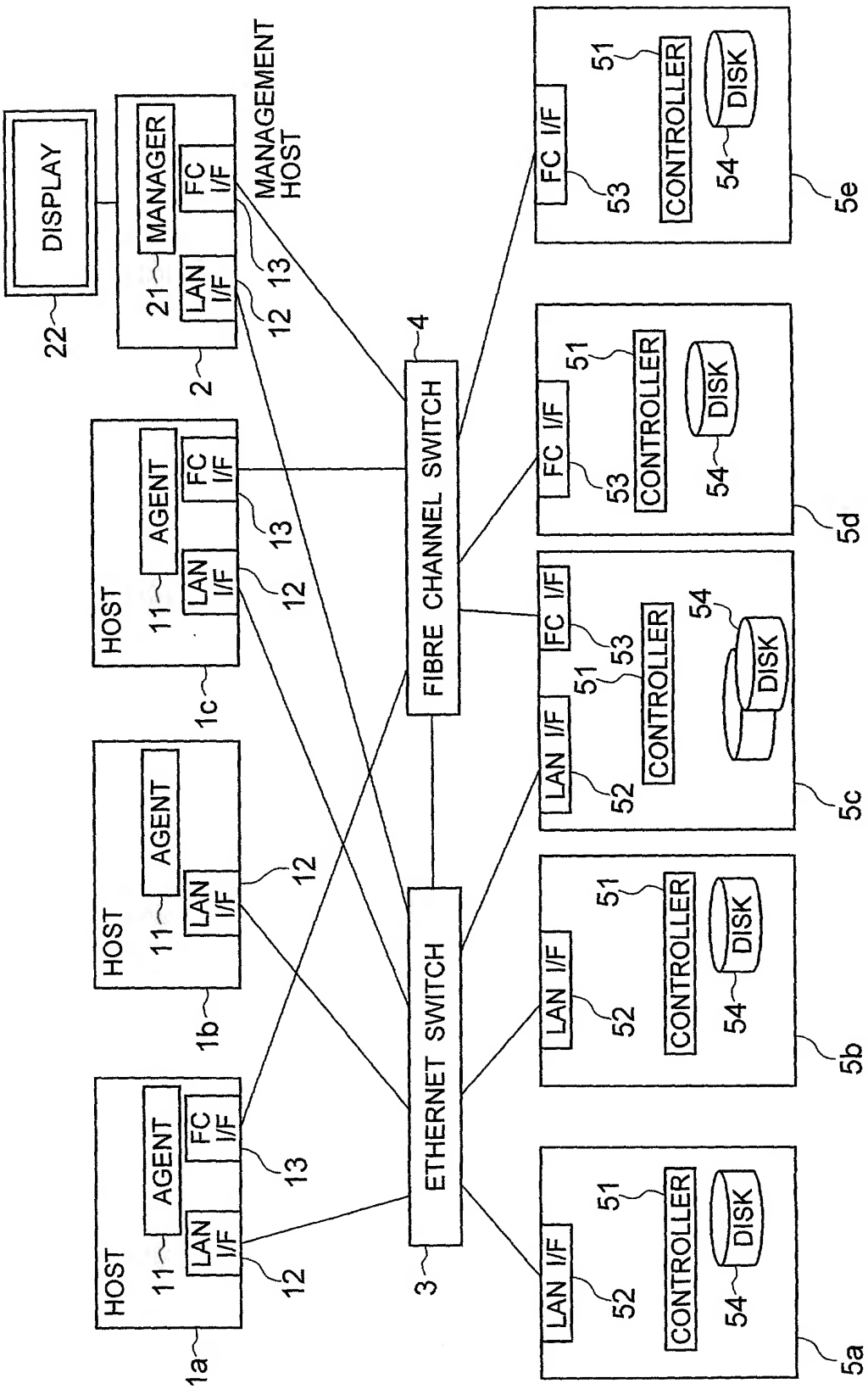
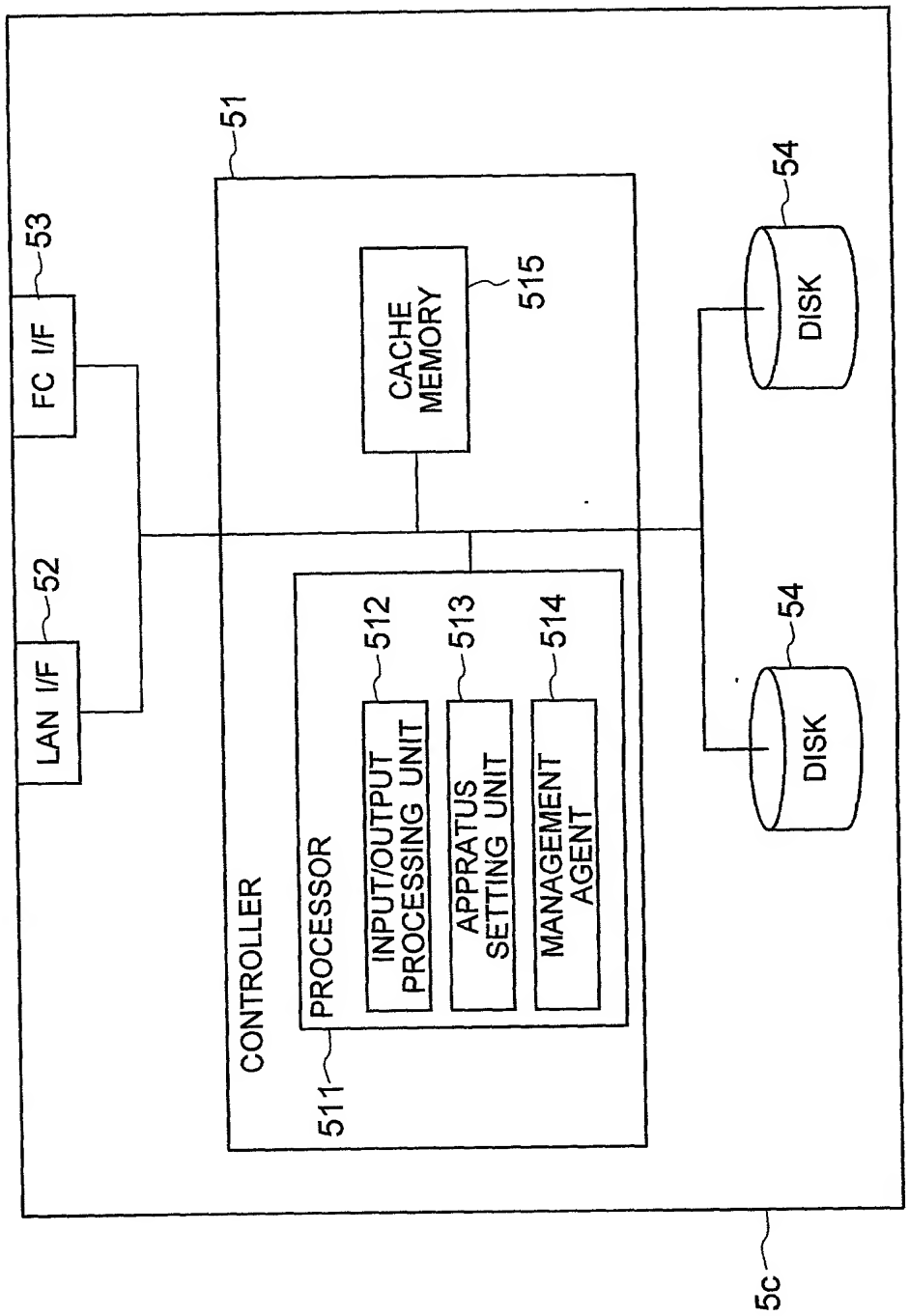


FIG. 2


5c
51
53
FC I/F
52
LAN I/F
CACHE MEMORY
515
54
DISK
54
DISK
CONTROLLER
PROCESSOR
511
512
INPUT/OUTPUT PROCESSING UNIT
513
APPRATUS SETTING UNIT
514
MANAGEMENT AGENT

Client's Ref

FIG. 3

60

61 APPRATUS ID	62 DEVICE No.	63 WWN	64 LUN	65 SIZE	66 CONNECTION PERMITTED WWN
3	1	22000020370000f96	0	20GB	NULL
4	0	12000020370000001	0	15GB	14000020370000e00
5	0	22000020370000e81	0	40GB	21000020370000000, 22000020370000ff2

Express Mail

FIG. 4

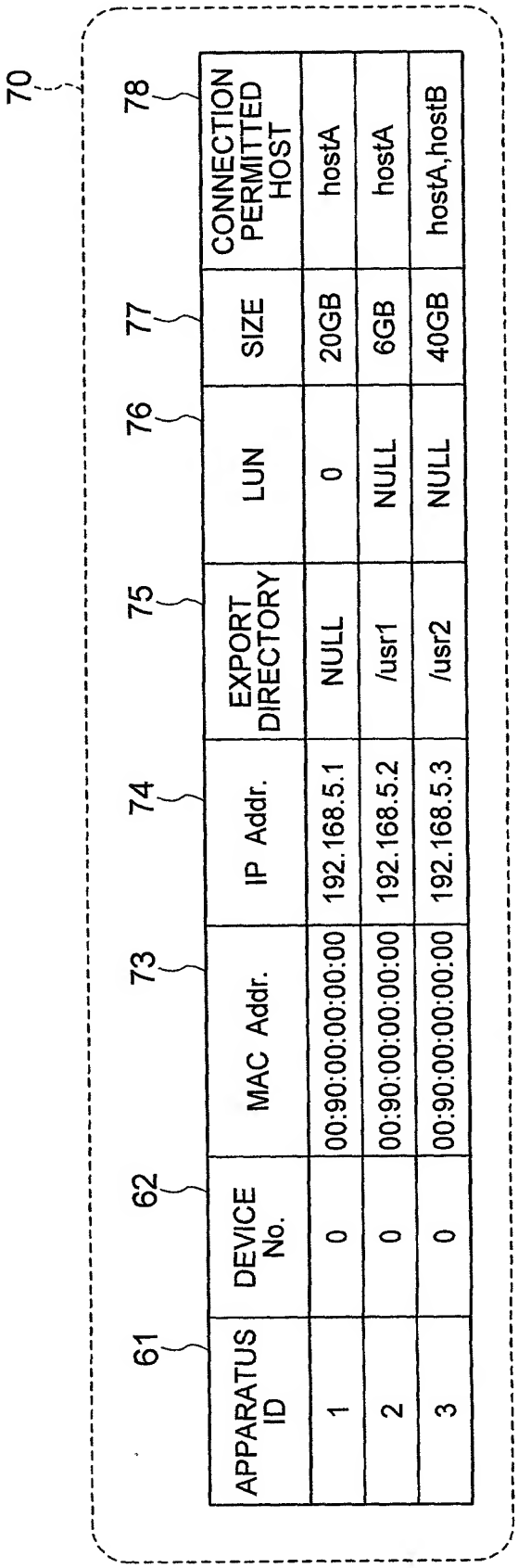
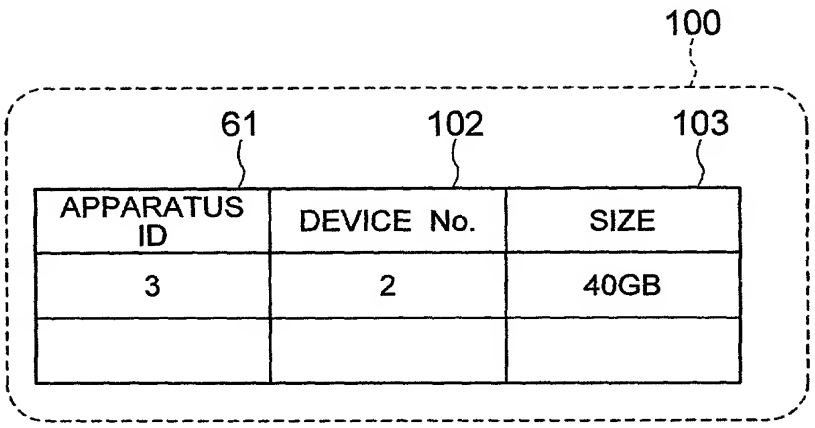
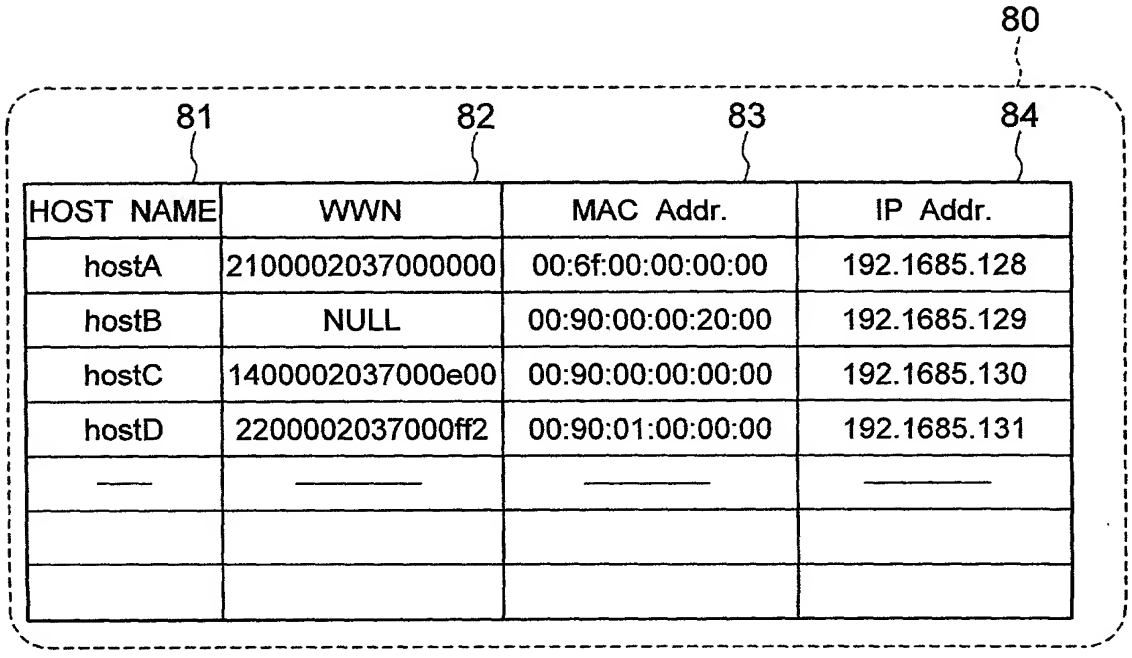


FIG. 5



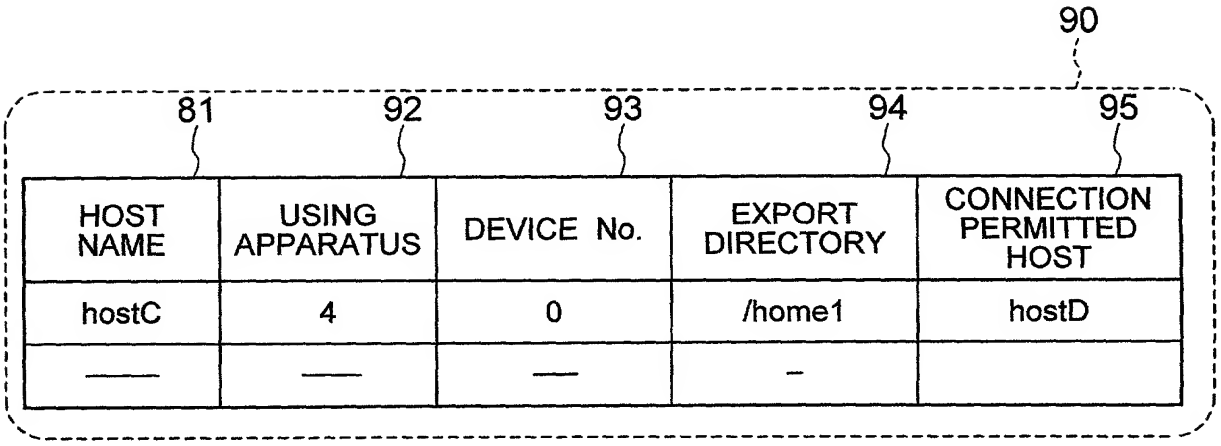
APPARATUS ID	DEVICE No.	SIZE
3	2	40GB

FIG. 6



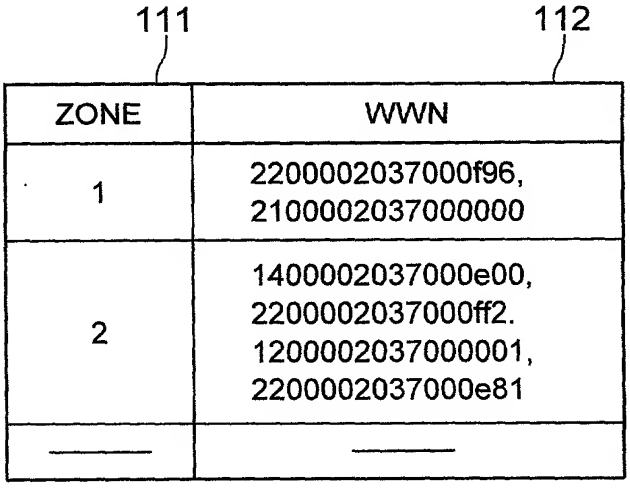
HOST NAME	WWN	MAC Addr.	IP Addr.
hostA	2100002037000000	00:6f:00:00:00:00	192.1685.128
hostB	NULL	00:90:00:00:20:00	192.1685.129
hostC	1400002037000e00	00:90:00:00:00:00	192.1685.130
hostD	2200002037000ff2	00:90:01:00:00:00	192.1685.131
—	———	———	———

FIG. 7



HOST NAME	USING APPARATUS	DEVICE No.	EXPORT DIRECTORY	CONNECTION PERMITTED HOST
hostC	4	0	/home1	hostD
——	——	—	–	

FIG. 8



ZONE	WWN
1	2200002037000f96, 2100002037000000
2	1400002037000e00, 2200002037000ff2. 1200002037000001, 2200002037000e81
———	———

FIG. 9

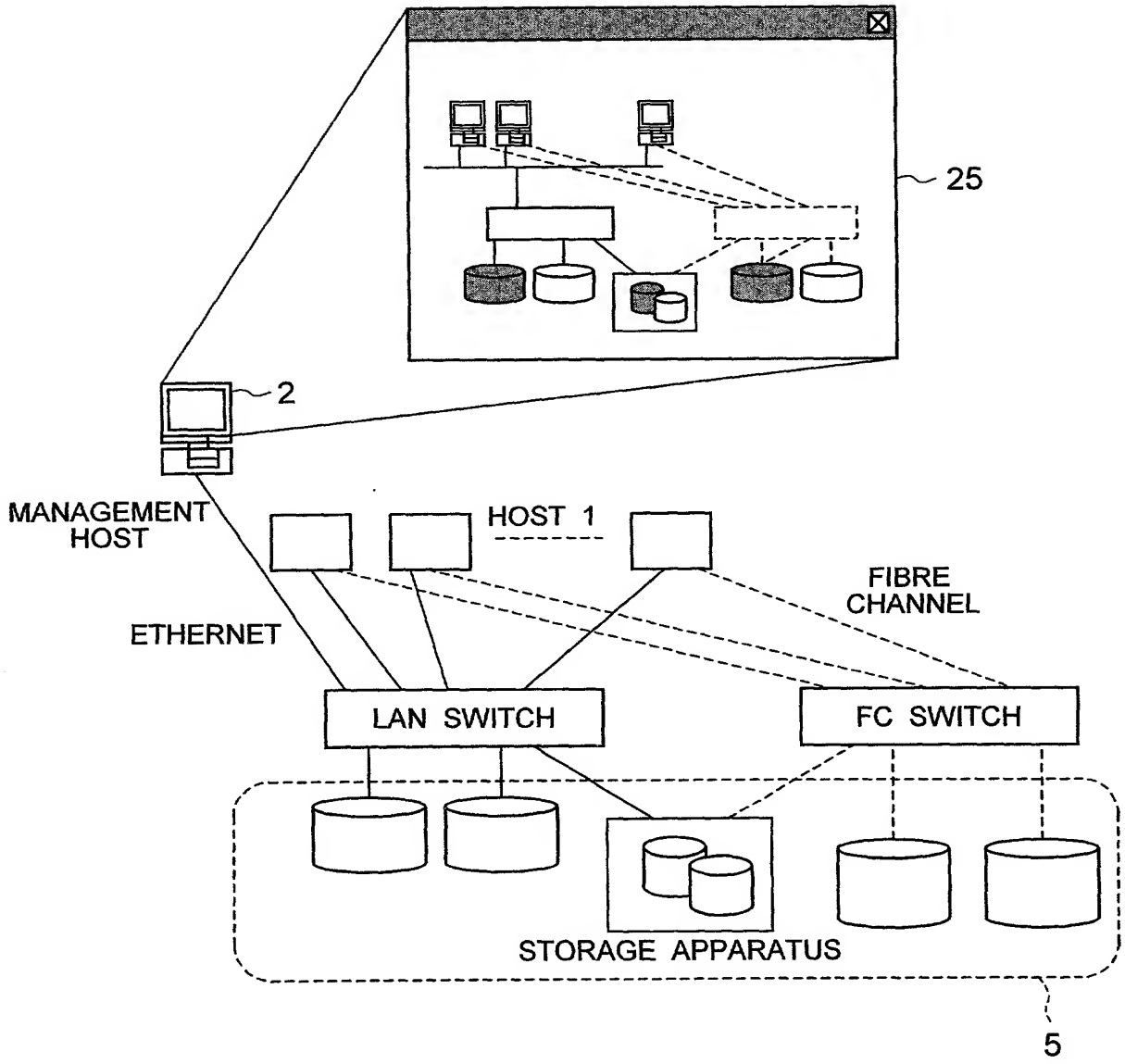

25
2
MANAGEMENT HOST
HOST 1
FIBRE CHANNEL
ETHERNET
LAN SWITCH
FC SWITCH
STORAGE APPARATUS
5

FIG. 10

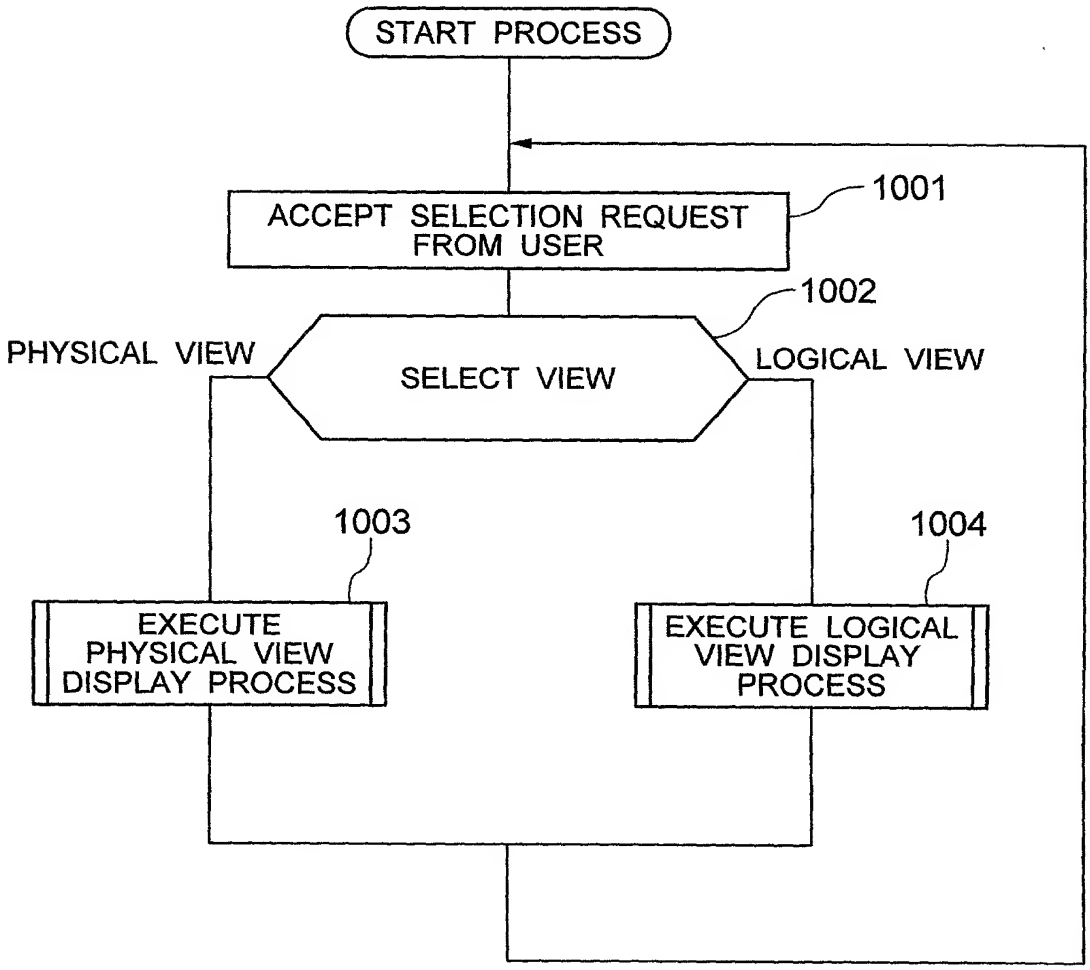

START PROCESS
ACCEPT SELECTION REQUEST FROM USER
1001
1002
PHYSICAL VIEW
SELECT VIEW
LOGICAL VIEW
1003
1004
EXECUTE PHYSICAL VIEW DISPLAY PROCESS
EXECUTE LOGICAL VIEW DISPLAY PROCESS

FIG. 11

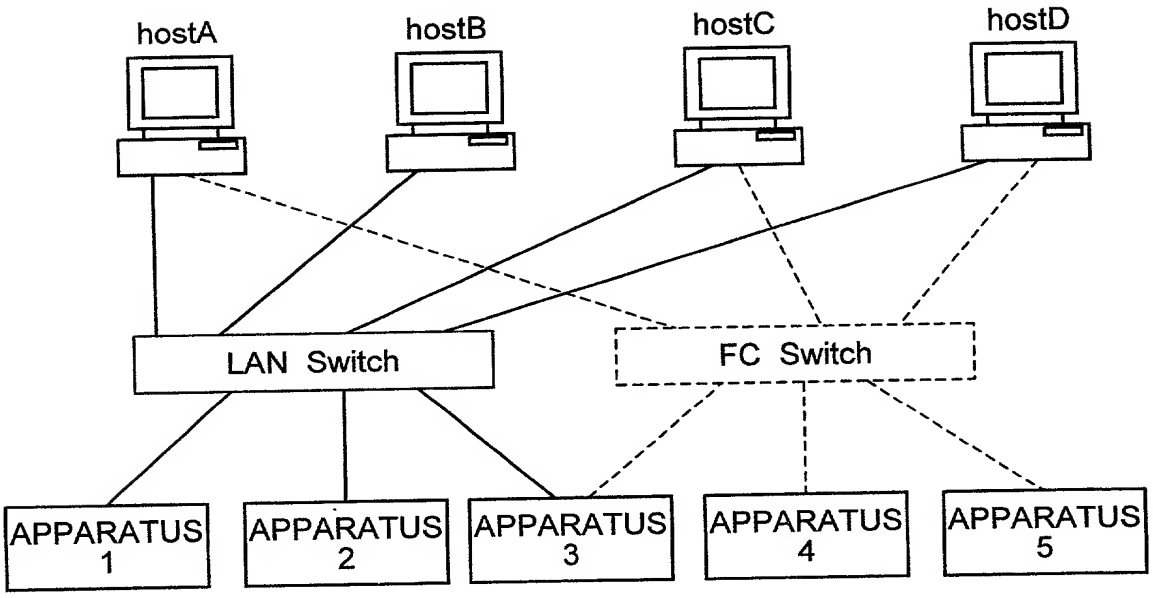


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FIG. 12

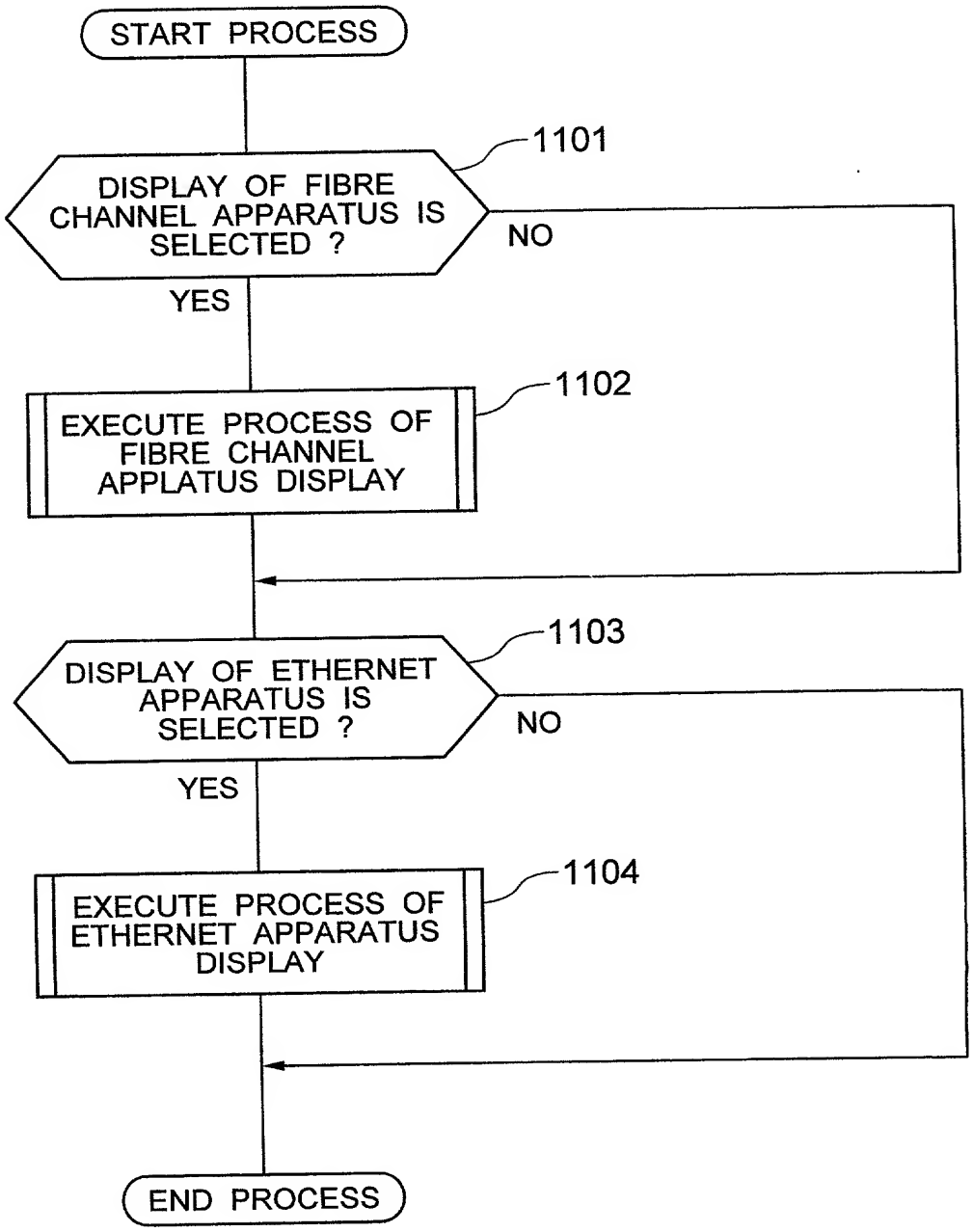
START PROCESS
1101
DISPLAY OF FIBRE CHANNEL APPARATUS IS SELECTED ?
NO
YES
1102
EXECUTE PROCESS OF FIBRE CHANNEL APPLATUS DISPLAY
1103
DISPLAY OF ETHERNET APPARATUS IS SELECTED ?
NO
YES
1104
EXECUTE PROCESS OF ETHERNET APPARATUS DISPLAY
END PROCESS

FIG. 13

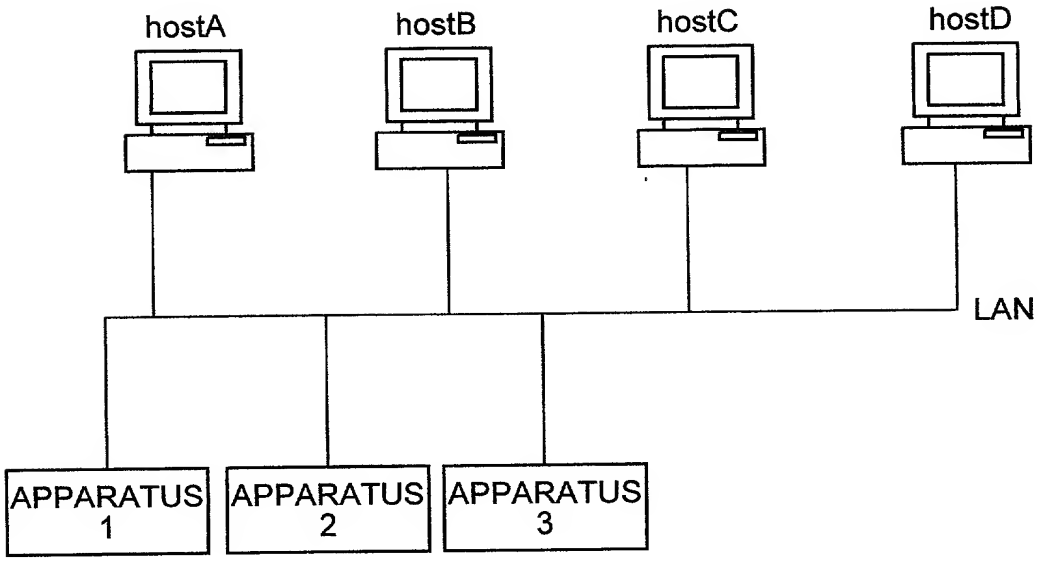
hostA
hostB
hostC
hostD
LAN
APPARATUS 1
APPARATUS 2
APPARATUS 3

FIG. 14

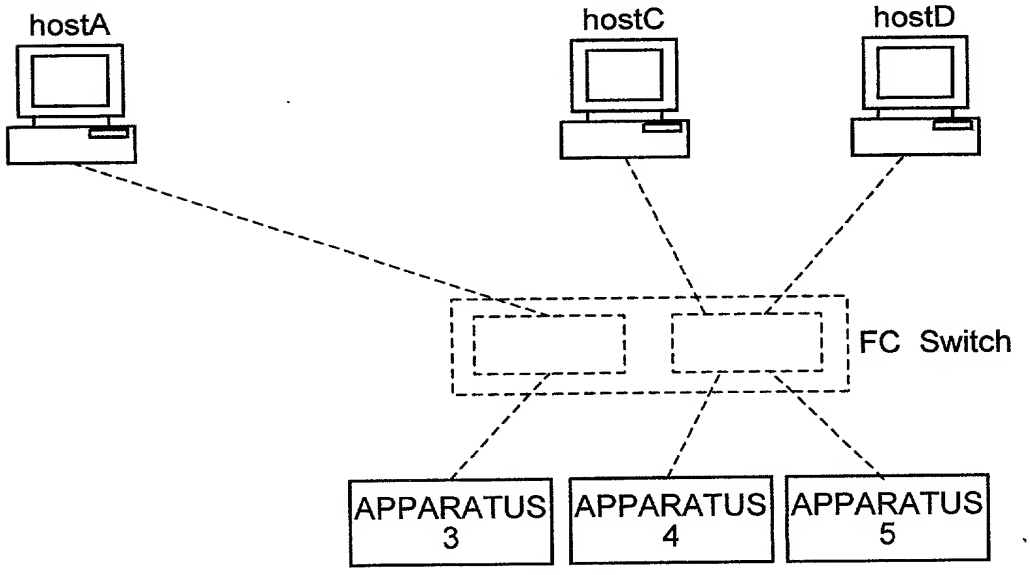
hostA
hostC
hostD
FC Switch
APPARATUS 3
APPARATUS 4
APPARATUS 5

FIG. 15

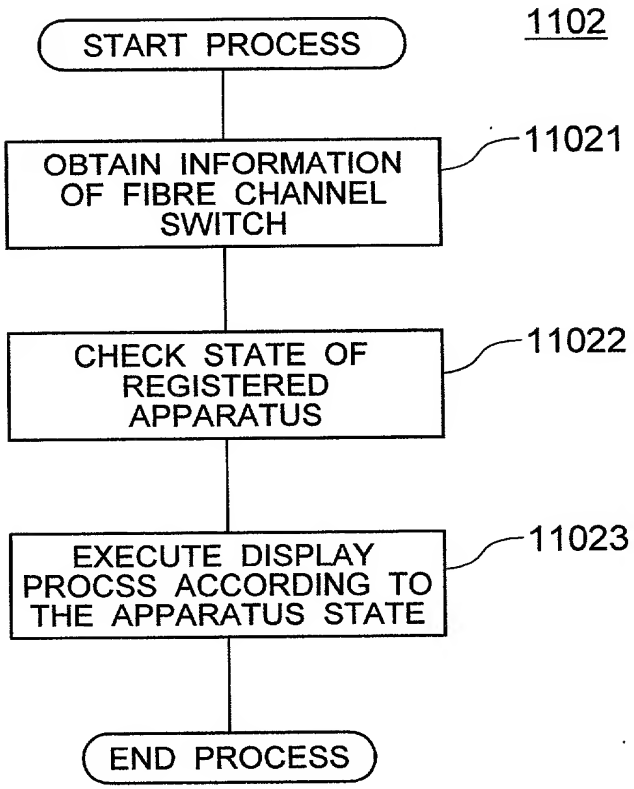
1102
START PROCESS
OBTAIN INFORMATION OF FIBRE CHANNEL SWITCH
11021
CHECK STATE OF REGISTERED APPARATUS
11022
EXECUTE DISPLAY PROCSS ACCORDING TO THE APPARATUS STATE
11023
END PROCESS

FIG. 16

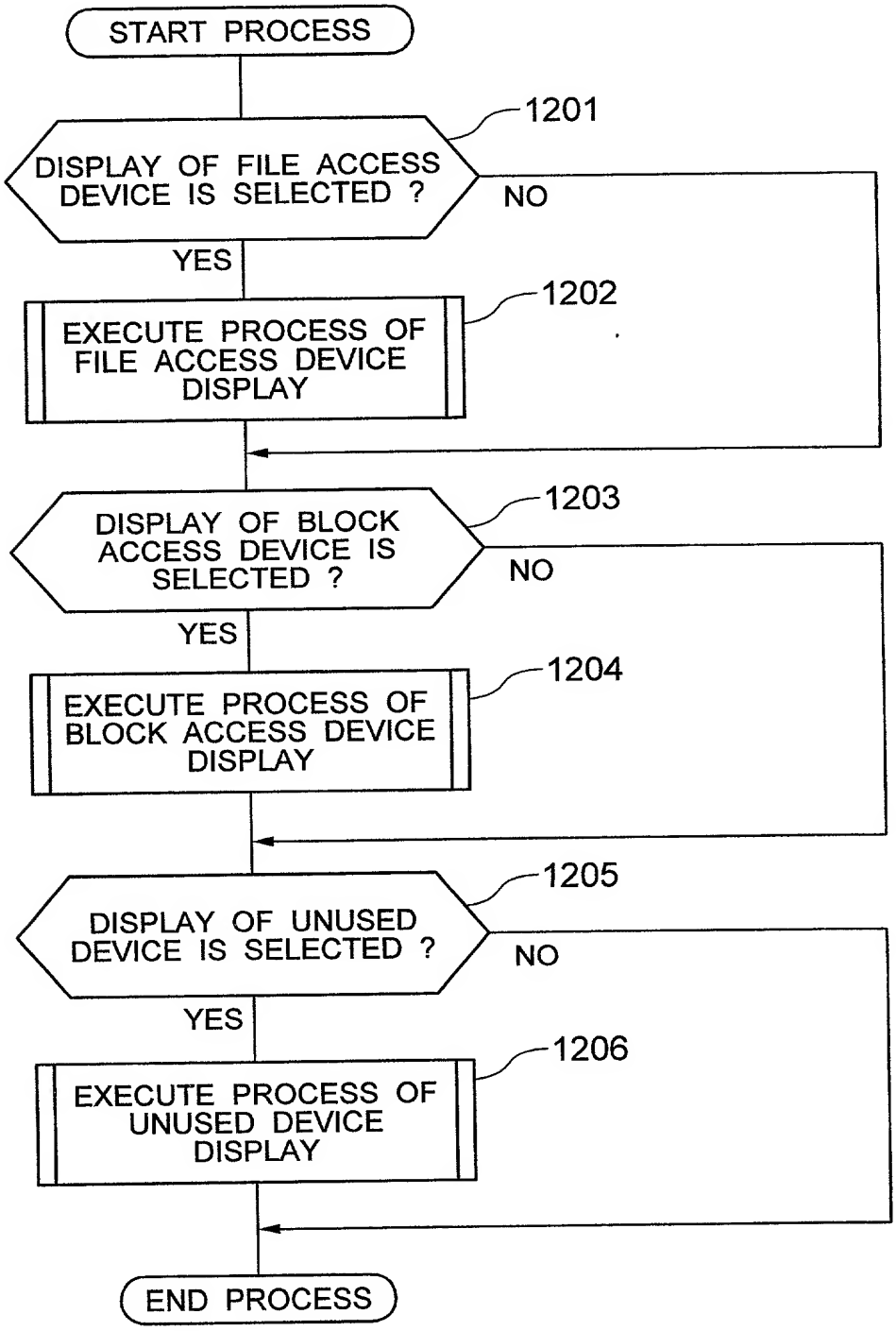
START PROCESS
1201
DISPLAY OF FILE ACCESS DEVICE IS SELECTED ?
NO
YES
1202
EXECUTE PROCESS OF FILE ACCESS DEVICE DISPLAY
1203
DISPLAY OF BLOCK ACCESS DEVICE IS SELECTED ?
NO
YES
1204
EXECUTE PROCESS OF BLOCK ACCESS DEVICE DISPLAY
1205
DISPLAY OF UNUSED DEVICE IS SELECTED ?
NO
YES
1206
EXECUTE PROCESS OF UNUSED DEVICE DISPLAY
END PROCESS

FIG. 17

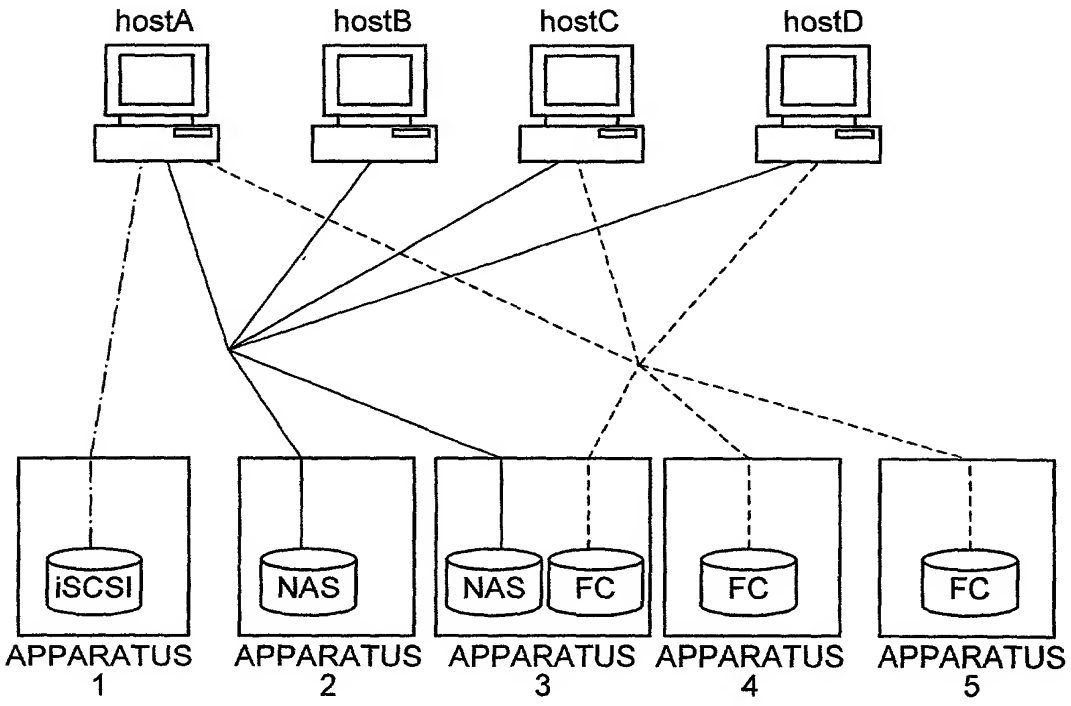
hostA
hostB
hostC
hostD
iSCSI
NAS
NAS
FC
FC
FC
APPARATUS 1
APPARATUS 2
APPARATUS 3
APPARATUS 4
APPARATUS 5

FIG. 18

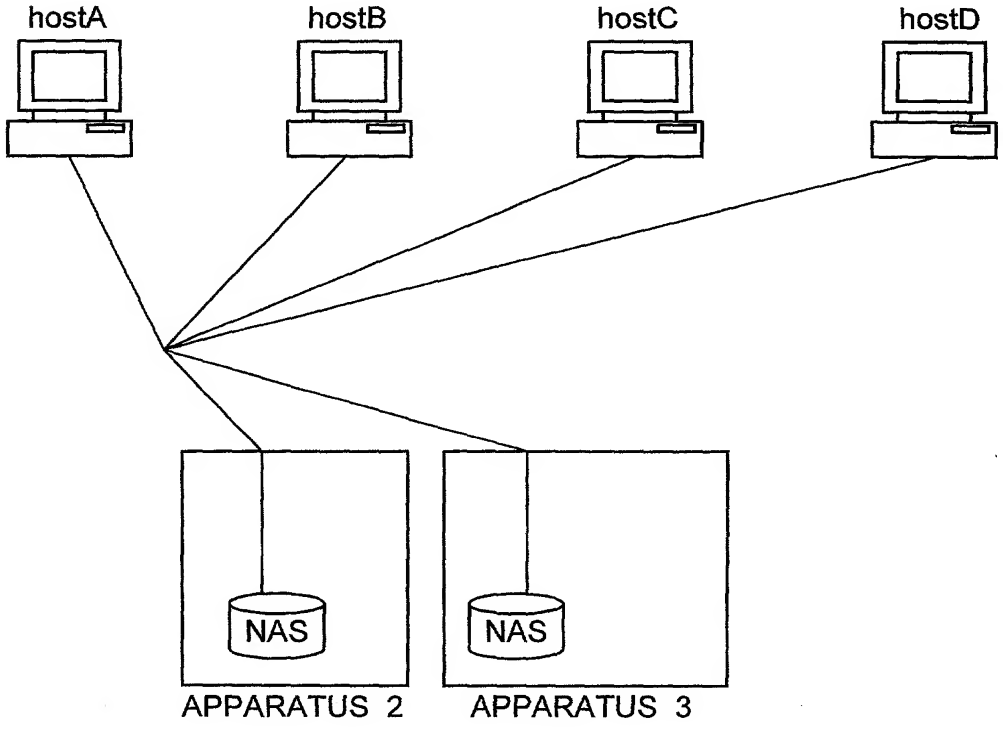
hostA
hostB
hostC
hostD
NAS
NAS
APPARATUS 2
APPARATUS 3

FIG. 19

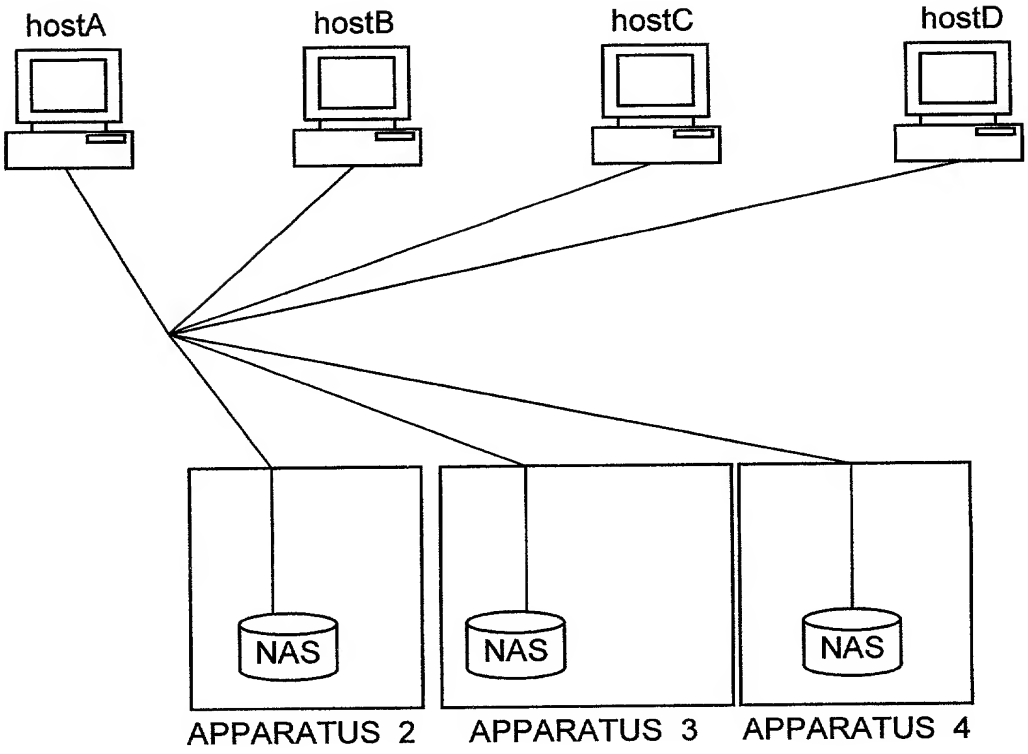

FIG. 20

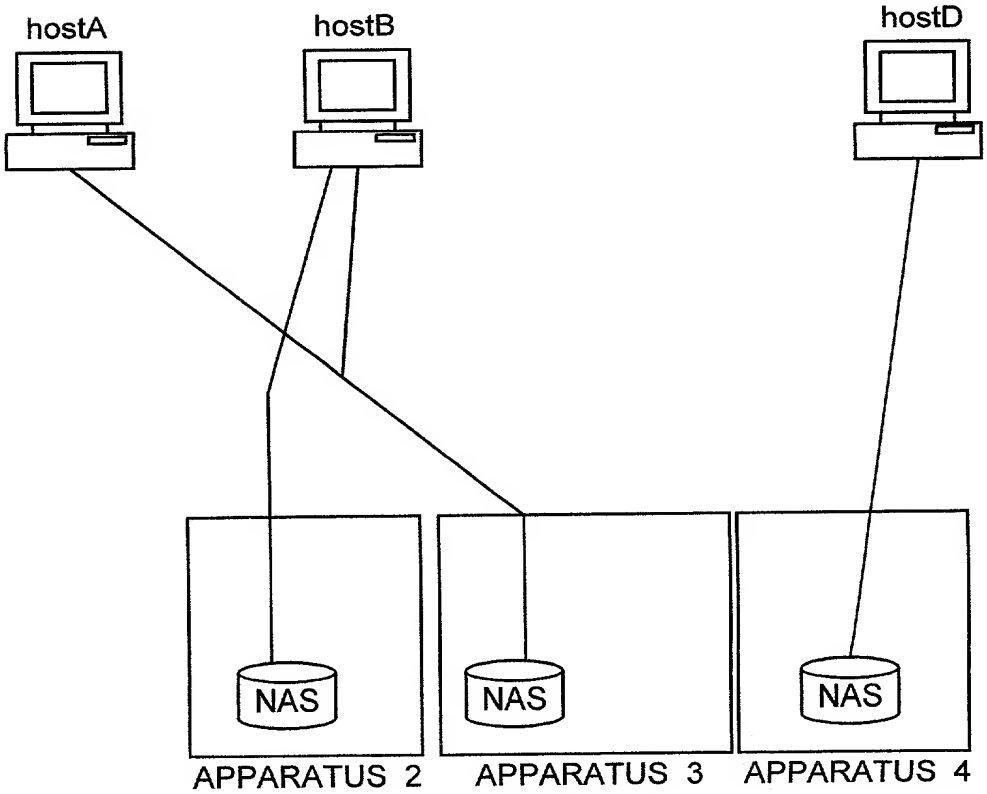

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FIG. 21

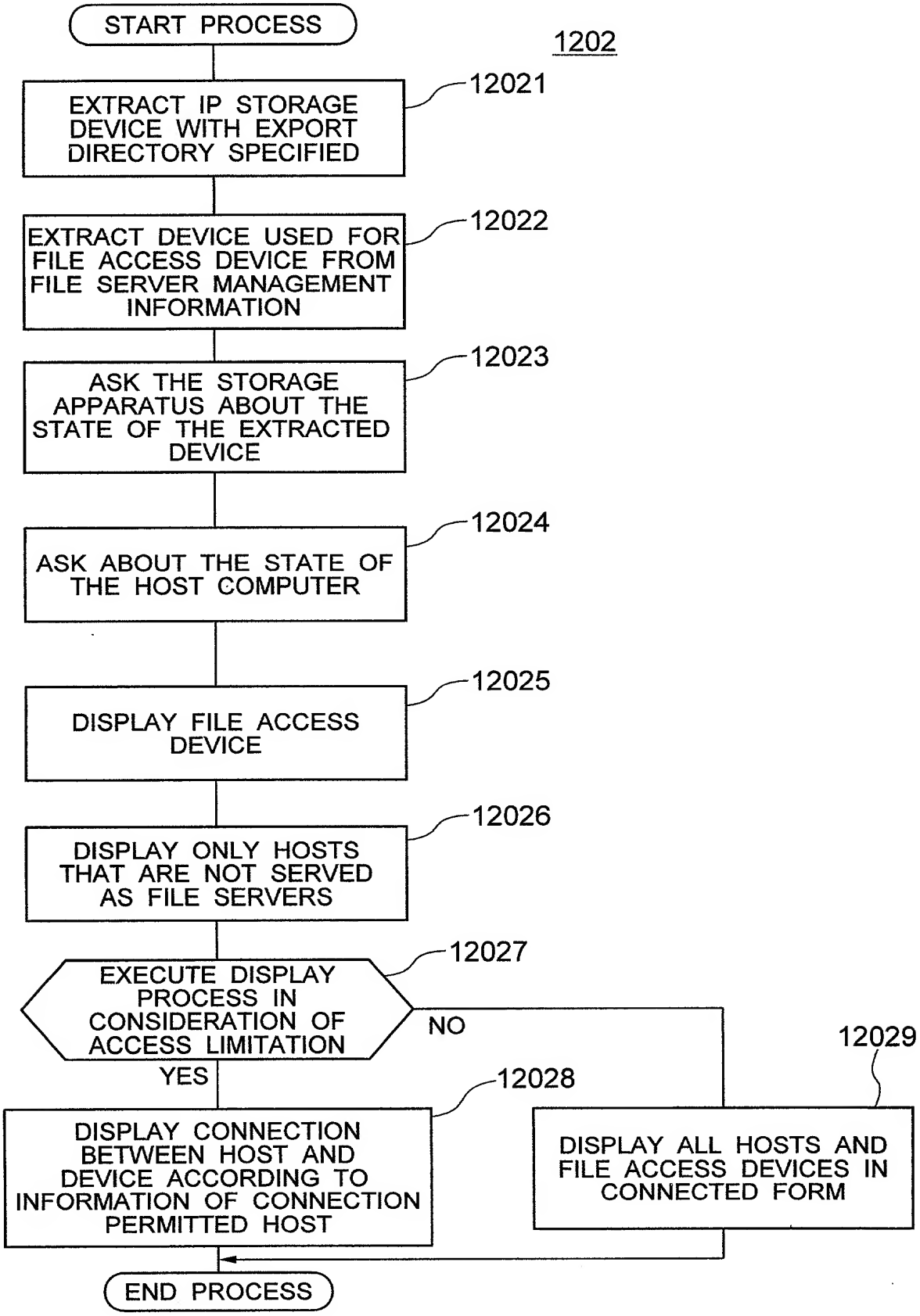

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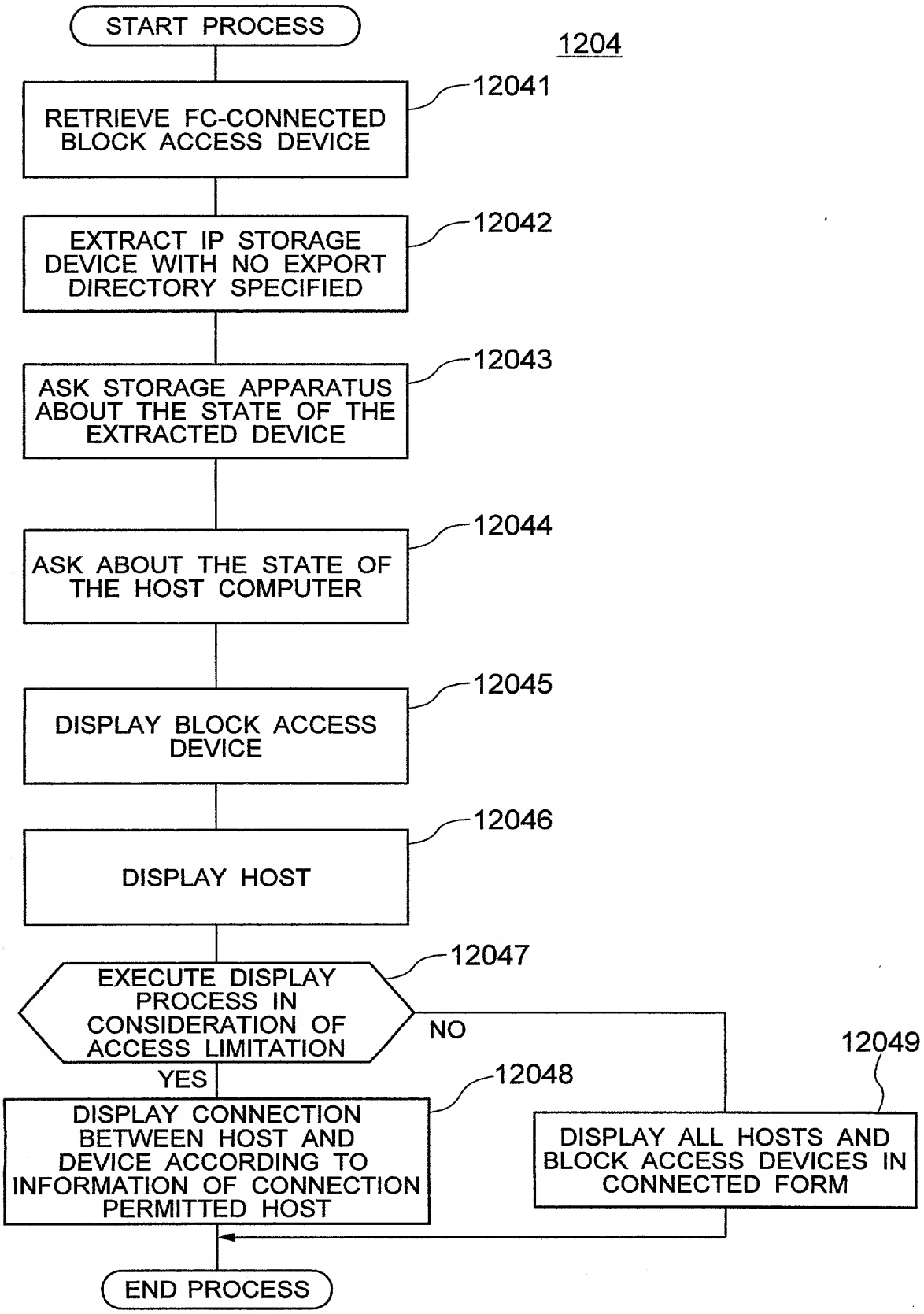
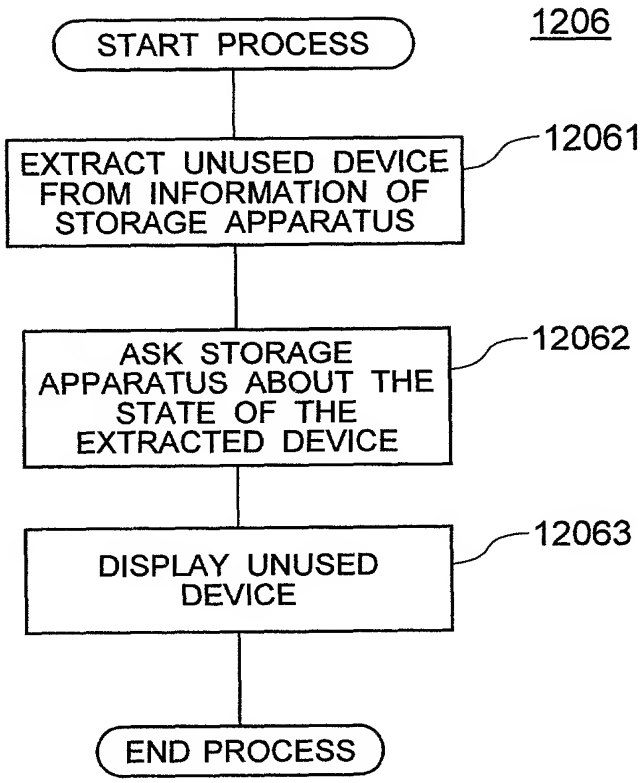
FIG. 22



2010-27-2 10:27:27 2010-27-2 10:27:27

FIG. 23


1206
START PROCESS
EXTRACT UNUSED DEVICE FROM INFORMATION OF STORAGE APPARATUS
12061
ASK STORAGE APPARATUS ABOUT THE STATE OF THE EXTRACTED DEVICE
12062
DISPLAY UNUSED DEVICE
12063
END PROCESS